Existential philosophers pointed to the problem: "out of all animals it is the human being who is aware of his own existence and is also aware that he is going to die."

This creates anxiety, worry, fear, and anguish.

Theistic existentialists attempted to solve the problem by taking the leap of faith.

The atheistic existentialists attempted to solve it by using human potentials.

It is this same problem of existence, which is death and unhappiness that all religions HOPE to solve, sometimes through an escape from reality into a fantasy of eternal life.

It was the Buddha, however, who solved the problem of existence by means of a paradigm shift from existential thinking to experiential thinking.

He Awakened from the fantasy of eternal existence into the reality of the absence of existence.

This is why he is called the BUDDHA, the one who has awakened from the dream of existence.

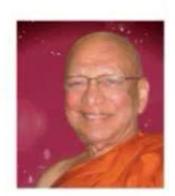
"Paṭicca-Samuppāda" Antecedental Concurrence

Precise Translation & Explanation
How the Buddha Became a Buddha
by
Venerable Dr. M. Punnaji Maha Thera

Psychology and Neuroscience Video Clips Presentation by Billy Tan



PATICCA-SAMUPPĀDA Antecedental Concurrence (Part 1)





Ven. Dr M. Punnaji Maha Thera

8th AUGUST 2011

Today we are going directly into the "Paṭicca-Samuppāda" because all these days we were really preparing to enter the "Paṭicca-Samuppāda," and now we are ready to talk about the "Paṭicca-Samuppāda," which means that we are trying to explain how the Buddha became a Buddha. Now in most books that you find about Buddhism and the Buddha, you'll find that they don't know how the Buddha became a Buddha, but they say the Buddha sat under a tree and then formulated the theory and came out and started preaching that. Like the armchair philosophers, he was a "Tree Robe" philosopher; that's how they try to show. Other philosophers sit on an armed chair but here he's sitting under a tree and formulating a theory. So this is not the formulation of a theory; it is very important to understand that the Buddha was not a philosopher.

Philosophers are the people who sit on a chair and begin to theorize. The Buddha was a discovery, not just a theory. You're discovering something. But in all modern scientific discoveries, these discoveries are what we call empirical. Now empirical means what you perceive through your senses: what you see, what you hear, what you smell, what you taste, what you touch. This is what scientists are discovering. They are able to see through special instruments like telescopes or microscopes, and so they discover many things through the telescope and microscope, or they can use their ears and hear things, or they can smell with their noses and discover things, or they can taste with their tongue and discover things, or they can touch with their hands and discovered was not empirical; it is Experiential. Now that is important to understand that word: Experiential, that means the Buddha was not looking at what was seen or heard or smelled or tasted or touched; the Buddha was looking at Experience itself.

Now I explain this earlier as not seeing what you see but seeing how you see. We are not seeing "what you see" but "seeing how you see," and it is by doing that that he understood the workings of the Mind: how the Mind works. And he found that the Mind is creating the World that we are aware of, and not only creating the World that we are aware of, the Mind is also creating the "Self" that is in the World, so he could analyze the Experience and observe the Subjective part of the Experience and the Objective part of the Experience and the Experience itself.

It was a philosopher in Scotland, David Hume, who pointed out that we can talk about is simply the experience. And this is why there were two philosophers, one from England and one from Ireland. The English philosopher was John Locke; he said there's no such thing as Mind there is only matter. And Irish philosophy, George Berkeley, said there is no such thing as matter there is only Mind. And then this philosopher from Scotland, David Hume, who said they're both right but both wrong. One was able to prove that there is no such thing as Mind, and the other one is able to prove that there's no such thing as matter.

What we can talk about is only the Experience, and it is through this process of Experiencing that we create the Mind and the matter, so Mind and matter are products of this Experience.

But Hume was not able to explain in detail how these things happen, and other philosophers started gradually moving away from that concept, so philosophy in the West went in a different direction. It was Immanuel Kant who started saying we cannot just stop that, and he spoke about two things call the Phenomenon and Noumenon. So this way, so I don't want to go into great detail about this, but the important thing is that the Buddha agrees with Hume there. But he went further and explain in detail how the human being creates this World and how the human being creates the "Self"; not that we are doing it. It is happening to us, we are not doing it. It is happening unconsciously. It is an unconscious process that is going on in the Mind due to the presence of the Necessary Conditions. When the Necessary Conditions are present it happens, no one is doing it, so that is the meaning of the word "Paṭicca-Samuppāda".

"Paticca-Samuppāda", I translate as Antecedental Concurrence. Antecedent means something that comes before another thing that is an antecedent. Now you switch off the light and it becomes dark, so switching off the light is the antecedent and the room becoming dark is the result of that. Or when you switch on the light, and light comes again you can see, that is again the switching on the light is an antecedent, and the light appearing is the consequence of that. So there is a series of antecedents that the Buddha spoke of; one coming after the other. But at the same time he speaks of these things happening at the same time, simultaneous, that means the first antecedent occurs and then the second thing happens as a result, and when the second thing happens the third thing also happens, and when the third thing happens the fourth thing also happens, all at the same time. So it is not one coming after the other in time; they're all happening at the same time that is why it is called Concurrence, happening at the same time: Antecedental Concurrence. So it is also very difficult to show the series of antecedents because everything is happening at the same time, but here the Buddha is pointing out that one thing has to happen before the other happens.

It is like if you open your eyes; first if your eyes are closed and then you open your eyes then you see, which comes first, opening the eyes comes first and then only you see, but both are happening at the same time; you open your eyes and you see, so it is a thing like that Antecedental Concurrence.

So by understanding this, the Buddha awakened from the Dream of Existence. It is by understanding this process that is going on that he awoke from the Dream of Existence. And by doing so he reached the highest point or the highest end of the Process of Evolution. Now today scientists talk about Evolution, but they don't talk about human Evolution; they only talk about what is called Biological Evolution: how life began and how the human being came into being. But there's another process where the human being evolves further and becomes a Buddha, so when the human being evolves and becomes a Buddha, that part is not just a Biological Evolution, it is a Psychological Evolution. It's the Psychological Process, and it is that process that the Buddha discovered. So that by discovering this process, he was able to stop the Process of Evolution that is why that is the highest point in the Evolutionary Process.

And people in other religions, they talk about a thing or a person call God with the capital 'G' who is supposed to be the creator of the world. But the Buddha pointed out that there's no creator of the world outside. The creator of the world is your own Mind. It is your own Mind that is creating the World. So, and what we call God or what all these people who believe in this God, they say God is all knowing, all powerful, and all good at the same time. But the Buddha points out that whatever was created, what is created is a Suffering because it is simply a struggle to exist, without real existence. So there is only a struggle to exist, but there is no real existence. And therefore, a God who is perfect in knowledge, perfect in powers, and perfect in goodness cannot be creating such a world full of Suffering. And this is not merely what the Buddha says; this is what most modern Western philosophers are saying. And if that is what it is then God who is perfect in knowledge, perfect in powers, perfect in goodness cannot be the creator of the World.

But the Buddha points out that there is such a person, and that person it's not the creator of the World, that person is a Human Concept. A Human Concept, it is the human being who is able to think of a person like that and this concept becomes an idea to be realized. So God then becomes the idea to be realized by the human being. And what we call religion is an effort of the human being to reach that state of perfection that is the meaning of religion. So the Buddha that gives the different meaning to religion, and this religion is not something that has come down from heaven to earth. Religion is something that has grown up on Earth to satisfy a human need, and that human need is to overcome this Suffering that we are born into.

And the suffering that we are born into is actually a creation of our own Mind, not by some other person. It is only by correcting this mental process that we can bring the Suffering to an end; that's what the Buddha pointed out. By correcting this mental process, and to correct is to awaken from a dream, that means we are all dreaming really, although we think we are awake we are really dreaming, and because we are dreaming it's like sleepwalking. So you see and if everyone is dreaming, everyone has to awake, become awake from this dream and that is why every human being has to become a Buddha.

So the Buddha is not just something private to one single person. Buddha is that state of perfection that every human being can reach, and the practice of Buddhism is this effort to reach that state of perfection, not unconsciously but consciously. So what we call Meditation is an effort to become conscious of this unconscious process that is the meaning of Meditation. So this is why if someone asks "Is there any person who has reached a state of perfection?" Yes and that is the Buddha. The person who reached that state of perfection is called a Buddha. Buddha means one who has awakened from the Dream of Existence, and that is why he's called the Theopsychic Being or the Anthropomorphic God.



Theopsychic Being, Anthropomorphic God





Just as the lotus born in the water, grown up in the water – rises above the water, and remains unsoiled by the water;

So is the Buddha, though born in the world, grown up in the world – rises above the world, and remains unsoiled by the world.

- Not a metamorphosis, but a metapsychic transcendence;
- Theopsychic Being, Anthropomorphic God



Ven. Dr. M. Punnaji Maha Thera

PATICCA-SAMUPPADA (August 2011)

Now this word Anthropomorphic God is a word used by Christians to refer to Jesus Christ. Anthropomorphic means: 'anthropo' means the human, 'morphic' means the body; God with the human body, so they see Jesus as God with the human body. So but we point out that Buddha is the real God with the human body. If God is one who is perfect in knowledge, perfect in powers, and perfect in goodness, then the Buddha is the 'God'; although, he has a human body he has the divine Mind; the Mind that is divine. And that is why he's called Theopsychic: 'Theo' means 'God', 'psychic' means the 'Mind being that of God'. So the Mind is the mind of God but the body is the body of a human being, and in order to do this, the Buddha has to "Depersonalize" the body. Now "Personalize" means to say this is "Mine". To "Personalize" is to say this is "Mine".



Theopsychic Being, Anthropomorphic God





Just as the lotus born in the water, grown up in the water – rises above the water, and remains unsoiled by the water;

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PATICCA-SAMUPPADA (August 2011)

So he has rising above the normal human state; this is why he compared himself to the Lotus: Though born in the world, just as the Lotus is born in the water, grown up in the water, and rises above the water, and remains unsoiled by the water. In the same way the Buddha though born in the world, grown up in the world, rises above the world, and remains unsoiled by the world; that is how he described himself.

There was a man during the time of the Buddha who met the Buddha once. How he met the Buddha was the Buddha was walking on the road, and this man also happened to be walking on the same road in the same direction, so the man was walking behind the Buddha and the Buddha was walking in front. When he saw the footprints laid down by the Buddha because those days the road was not tar road like today, it's a gravel road, so he saw the footprints and he thought these footprints can't be human footprints; there was something different in the footprint. "Who is this person who is walking in front of me?" The Buddha was able to read his thoughts, so he thought I will get out of the road and sit under a tree, so that he can come and ask me questions if he's interested.

So the Buddha went and sat under a tree, and the person came, he paid respects to the Buddha and asked:

Man: "Are you a Deva?" Deva means an inhabitant of Heaven, but in English that is called an Angel, so "Are you an angel?"

Buddha: He said "No! I'm not an Angel." Man: Then he asked "Are you then a devil?"

Buddha: He said "No! I'm not Devil."

Man: Then "Are you some kind of Spirit?"

Buddha: He said "No! I'm not kind of Spirit."

Man: Then "Are you a Human Being?"

Buddha: He said "*No! I'm not a Human Being.*" So that's very important to understand that the Buddha himself said he's not a human being.

Man: Then he asked "What are you?"

Buddha: He said "Well whatever quality or characteristics that you might observe and refer to a person as Deva, those characteristics are not present in me; whatever characteristics you might see and refer to a person as a Devil, those characteristics are also not present in me; whatever characteristics you might observe and refer to a person as Spirit, those characteristics are also not present in me. Whatever characteristics if you observe and you refer to a person as a Human Being, those characteristics are not present in me. The only word you can use to refer to me is Buddha, and Buddha means one who has awakened from the Dream of Existence."

Buddha: He pointed out that "All these other people that you were mentioning that means the Devas and Devils and Spirits and even Human Beings, they have three things: Lust, Hate, and Delusion. I don't have Lust, Hate, or Delusion in me, and therefore you cannot refer to me by any of those names. This is why only a person who has awakened from the Dream of Existence can be called a Buddha, an Awaken One."

So there are various descriptions of the Buddha in the Sutras; you should read these and understand. So the most important thing is to realize that the Buddha is not an ordinary human being. He was not just a philosopher who went and sat on a chair and formulated the theory and came out and spoke about that theory that's not what happened. He was transformed and the transformation was a transcendence rising above the normal state of the human being. He went even beyond the Gods and Devas of all the different Worlds. So he was not just an ordinary human being. So it's very important to understand that. And you'll understand this fully only when you have understood the "*Paṭicca-Samuppāda*."

So this "Paṭicca-Samuppāda" word; here we have pointed out using the word Sanskrit "Pratītyasamutpāda:" 'Pratī' means coming before, and 'ītya' means being, and 'sam' means simultaneous, and 'utpāda' coming in to being, arising.

"Paṭicca-Samuppāda", it is very important to understand that. Now we use this word "Antecedental Concurrence", and in speaking, using this word 'Antecedent', there are three kinds of Antecedence described by Bertrand Russell that British philosopher.



ANTECEDENCE



- There are 3 kinds of Antecedences:
 - Spatial eg. a row of marbles where one comes before the other;
 - II. Temporal eg. A melody where one note comes before the other;
 - III.Logical eg. A series of numbers in logical sequence: 1, 2, 3, 4... etc.
- Paticca-Samuppāda is about <u>logical antecedence</u>.

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PAŢICCA-SAMUPPĀDA (August 2011)

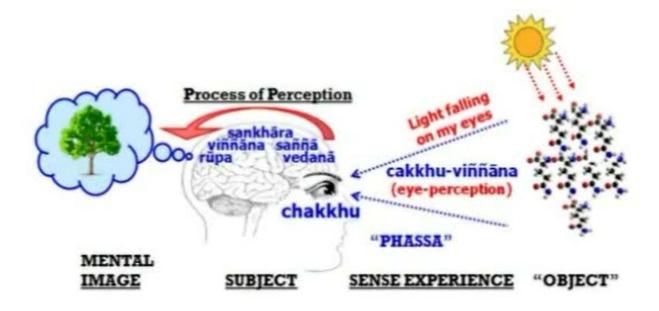
- (I) He pointed out there is a kind of antecedence which is called the Spatial Antecedence. If you'll take a row of marbles, one here, another next to that, another next to that, so one comes before the other, so that means this is a series of antecedence in space, so it is in space because it is seen and also you can also measure it; the length of the row of marbles can be measured, one comes before the other. Or you can speak of a row of pillars; if you have a row of pillars that is also series of antecedence, one coming after the other in space.
- (II) But there's another kind of antecedence that is what is called Temporal Antecedence. Now Temporal Antecedence means antecedence in time. Now if I just tap the table here. You see a row of sounds coming one after the other, or you can speak of sounds in a piano or something, a series of antecedence which are sounds in a piano that you play or any musical instrument. So those are sounds and these sounds, one coming after the other in time not in space, and that is a TemporalAantecedence.
- But there is another kind of antecedence, which is called a Logical (III) Antecedence, and that is say we say one, two, three, four, five, six, seven, eight, nine, ten; one comes before two logically, two comes before 3. But it is not in space or in time, and so that is called a Logical Antecedence. Now when we talk about the series of antecedence here in the "Paţicca-Samuppāda," we are really talking about Logical Antecedence. Logically one thing comes before the other. Now if you close your eyes and then open your eyes you begin to see, so the opening of the eyes has to come first and seeing comes after that, but they are all happening at the same time. So logically they are antecedence, but they're happening at the same time which means concurrence: Antecedental Concurrence. That is why it called concurrence, happening at the same time.

Now here in the "Paṭicca-Samuppāda" we have to become aware of the Process of Perception itself. The Process of Perception; if you close your eyes you don't see anything, and of course your ears also if you plug your ears you don't hear anything, or you plug your nose you won't be able to smell, or you somehow keep your mouth closed you won't be tasting anything, and if you don't touch anything then you don't feel the touch. So the senses are not stimulated, and because the senses are not stimulated, you're not seeing or hearing or smelling or tasting or touching.



Eye-Perception (cakkhu-viññāna)





Ven. Dr. M. Punnaji Maha Thera

PATICCA-SANUPPĀDA (August 2011)

But the moment you open the eyes, you begin to see, so that is something that happens, but even seeing there is a series of activities in the process of seeing, and to understand that we have to understand a little more, which I have been explaining earlier, so I don't have to go into detail explanation here. because I said in our eyes there is a thing called a retina, and there you get nerve endings, nerve endings coming from the optic nerve that goes from the brain to the eye, and there these nerve endings are able to detect light, and the light comes in the form of waves, with different frequencies, and these frequencies or wavelengths, and then each nerve ending can only detect one frequency, and therefore there are say seven frequencies that are received.

And so when you open your eyes, you're only able to see those frequencies come in the form of light, 7 lights: violet indigo, blue, green, yellow, orange, and red. That is what you call rainbow colors. And these colors, that is all that you are able to see with your eyes when you open your eyes, you don't see anything else.

And that seeing means you see something and then you also feel whether it is pleasant or whether it is unpleasant. When you see red you might say it is pleasant, or another person might say it is unpleasant, or when you see blue you might say it is pleasant, or the other person might say it is unpleasant. So everything depends on what you see, and how you really react to what you see.

So when you see something, so there are two things happening one is seeing the color and then whether you like it or not that is the Feeling. So we are using two words to refer to the color as a Sensation, and whether you feel it is pleasant or unpleasant or neither pleasant nor unpleasant.

All that is a Feeling: so the Sensation and the Feeling.

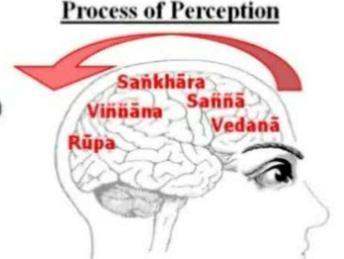


THE 5 CUMULATIVES (Pañca khandha)



THE 5 CUMULATIVES ("the 5 aggregates"):

- Feeling (Vedanā)
- Sensation (Saññā)
- Mental Construction (Sankhāra)
- Perception (Viññāna)
- Mental Image (Rupā)



Ven. Dr. M. Punnaji Maha Thera

PAŢICCA-SAMUPPĀDA (August 2011)

And that Sensation is what the Buddha called "Saññā", and the Feeling is what the Buddha called "Vedanā": "Saññā" and "Vedanā."

And then when you are experiencing these two things, the Sensation and the Feeling, you put these colors together and form an image. You see it as an image. Now that is very interesting to know the Feeling as an image. Now if you look at some of the pictures here around, you'll see that all those pictures contain colors, that's all that you see, but you put the colors together and then you form an image, that image being formed is also the activity of the Process of Perception.



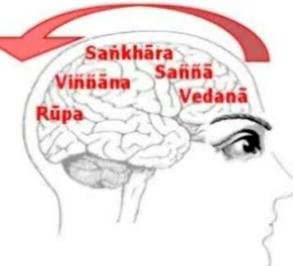
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PAŢICCA-SAMUPPĀDA (August 2011)

And that activity of creating an image is what is called "Saṅkhāra." "Saṅkhāra" means Construction, so it becomes a Mental Construct, so the image is a Mental Construct. But when you look at the picture, you're not only creating one construct, you're creating several constructs, and each construct you give a "Name", every time you create the construct, you also give a "Name" to it.

And in the Process of Construction, you're also using your memory, the memories what you have seen before and you recognize, "Oh! This is a man." How do you know? Because you have seen men before, and you might even say that that man has to be a Jewish. Why because he's wearing that Jewish cap. So those are some of the things that you have seen before. Or even if you look at the glass of water you can say this is a glass of water. Why because you have seen these glasses of water before.

Now that memory being used is you are really putting what you see into a category, and it is by putting it into a category that you are able to recognize it. Now when we use the word "recognize", you're saying "re-cognize"; "recognize" means "re-cognized". So the re-cognize means, that is the categorization, and that process is called "Papañca"; the word "Papañca" refers to that process.

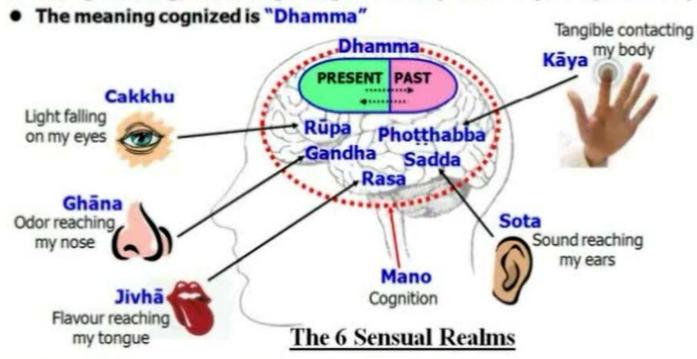


Ven. Dr. M. Punnaji Maha Thera

Process of Cognition (Mano)



- Memory is the Fluid Past organized in a categorized manner
- Fluid Present refers to the Categorized Past ("Papanca")
- Giving meaning to & re-cognizing what was perceived ("interpretation")



So you see, it is very important do understand that you are not only creating one image, you are creating several images, and you also notice that one image is related to another image. Now if you see a face, and in the face there's a pair of glasses, then you're relating the glasses to the face.

PAŢICCA-SAMUPPĀDA (August 2011)

You're giving meaning to all that by seeing the relationship.

So what you see as it creates Image is what is called " $R\bar{u}pa$ ". " $R\bar{u}pa$ " really refers to the Image and the Name giving to that Image is the " $N\bar{a}ma$ ". " $N\bar{a}ma$ " means Name. So when you say " $N\bar{a}ma$ - $R\bar{u}pa$ " you are really talking about Process of Perception.

The Process of Perception is to recognize and interpret what you have seen; it's an interpretation of what you have seen; giving meaning to what you saw through that Process of Recognition you are giving meaning to what you saw. So that whole process of looking at things, creating images, seeing relationships, and giving meaning, that whole process is what is called " $Vi\tilde{n}\tilde{n}\bar{a}n$ a." And that process called " $Vi\tilde{n}\tilde{n}\bar{a}n$ a" is perception. And that Process of Perception, some people translate this as "Consciousness", but this is not consciousness; this is only perception that is the important thing to understand.



Ven. Dr. M. Punnaji Maha Thera

Process of Cognition (Mano)



- Memory is the Fluid Past organized in a categorized manner
- Fluid Present refers to the Categorized Past ("Papanca")
- Giving meaning to & re-cognizing what was perceived ("interpretation")
- The meaning cognized is "Dhamma" Tangible contacting Kāya my body Dhamma. PRESENT Cakkhu Light falling Rupa Photthabba on my eyes Gandha Rasa Sota Odor reaching Sound reaching my nose my ears Cognition Flavour reaching The 6 Sensual Realms my tongue

Now in recognizing we are bringing the past into the present, not that you're bringing something called past into the present, but you are seeing the relationships between your past experiences and the present experience. And it is by doing that that you are able to recognize, and that process is called the Process of Cognition, the process of cognition.

PATICCA-SAMUPPÄDA (August 2011)

Bhante we have some videos. Now we look at some videos.



SANKHĀRA CONSTRUCTION OF VISUAL IMAGE



- Our eyes do not see fully formed images our eyes see images in "Jigsaw Puzzle" manner
- Every light-sensitive cell in the retina of the eyeball carries an independent signal to the brain ("snippets of information") like the individual pieces of a jigsaw puzzle
- It is the SANKHĀRA process in the Mind that gathers all these "snippets" of information and constructs the fully formed image in our mind

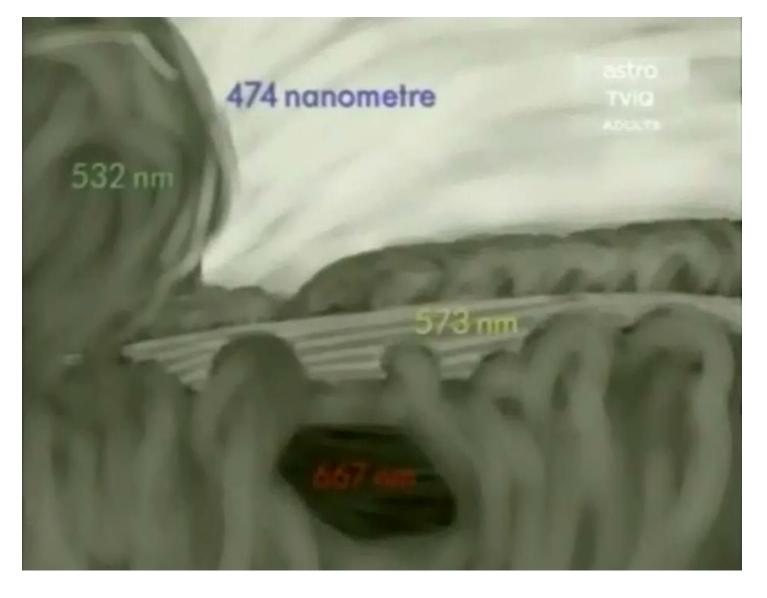
Ven. Dr. M. Punnaji Maha Thera

PAŢICCA-SAMUPPĀDA (August 2011)

Bhante described early on about Sensation of color and the Feeling of color, so this is a video. These videos are all made by neuroscientists, brain scientists who have only formalized these ideas in the last 15-20 years, even though Buddha has already written about it 2600 years ago, so these are quite recent findings but they have now clarified.



Some scientists claim the simple act of seeing a color triggers a spontaneous reaction in the nervous system. This is automatic. It isn't caused by any association but by the wavelength of the color. Objects reflect light at different wavelengths. Our brain interprets these wavelengths of different colors.



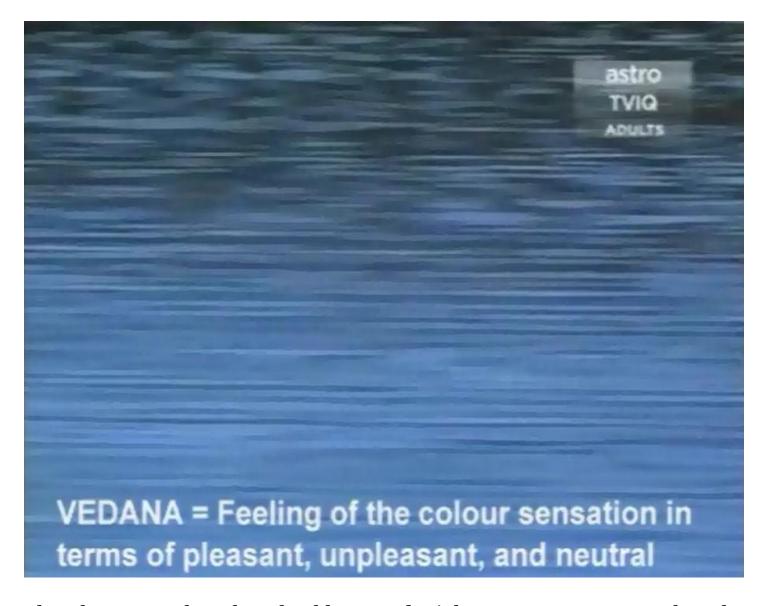
From blue the shortest wavelength, to green and yellow to red, the longest.



" $Sa\tilde{n}\tilde{n}a$ " = Sensation of the wavelength of light falling on the eyes representing colors.



The long wavelengths, the reds and oranges, are said to arouse the nervous system, heart rate, and blood pressure increase.



The short wavelengths, the blues and violets, are meant to relax the nervous system.



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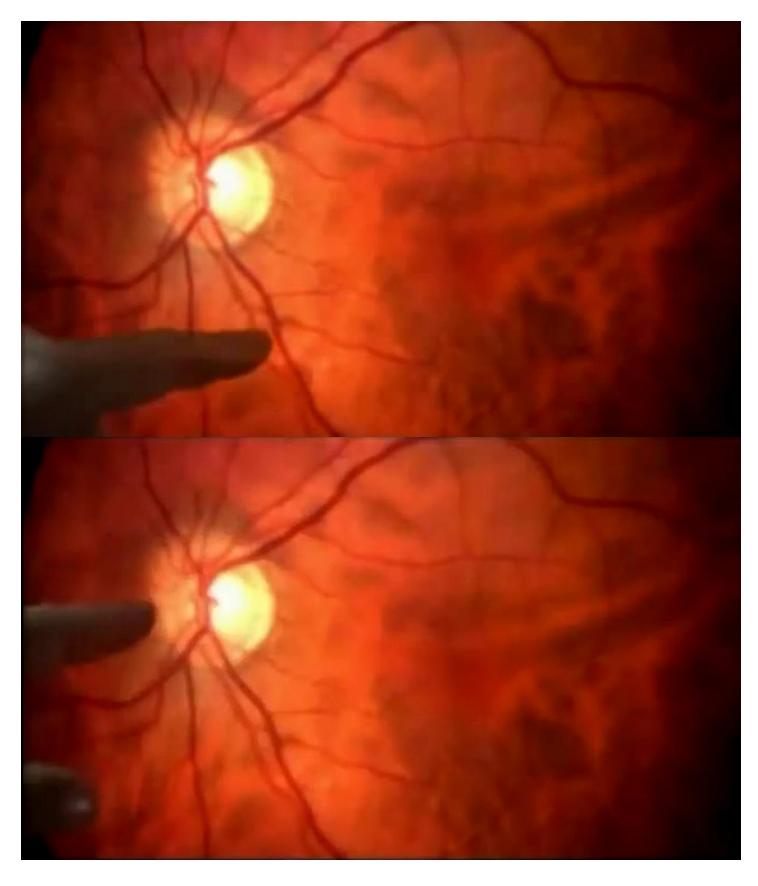
Ven. Dr. M. Punnaji Maha Thera

PAŢICCA-SAMUPPĀDA (August 2011)

The next video I'm going to show is a very interesting one. Bhante has described it already briefly; it's very detailed analysis of what goes on inside the eyeball. In the retina of the eyeball, there two types of cells cones and rods. Rods cannot see in color; they are quite blurred image in black and white. Cones are the only ones that can see in color, and there is a very small portion of the eyeball, which contains a lot of cones, and that is the only portion that can detect an image in clear sharpness and in full color, but that is a very small part of it. So our eyeball actually sees in jigsaw puzzle manner, not a full image. We do not see full images. We see small little jigsaw puzzle images, and it is the "Sańkhāra" process that constructs these jigsaw puzzles into a full image.



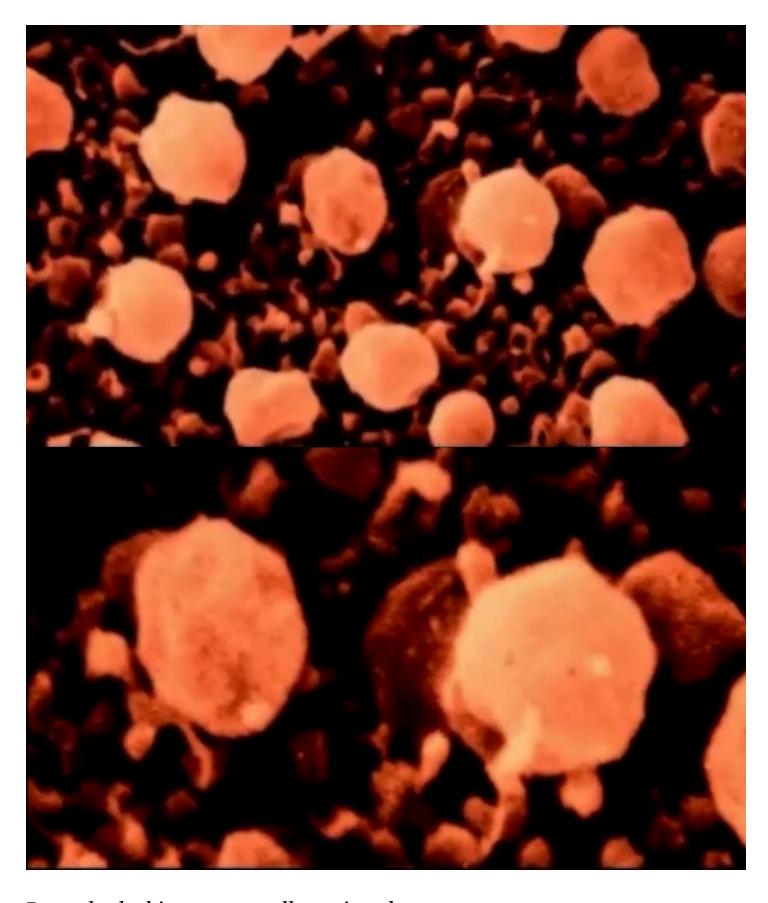
Ophthalmologist Dr. Bill Aylward takes a snapshot of the back of the eye.



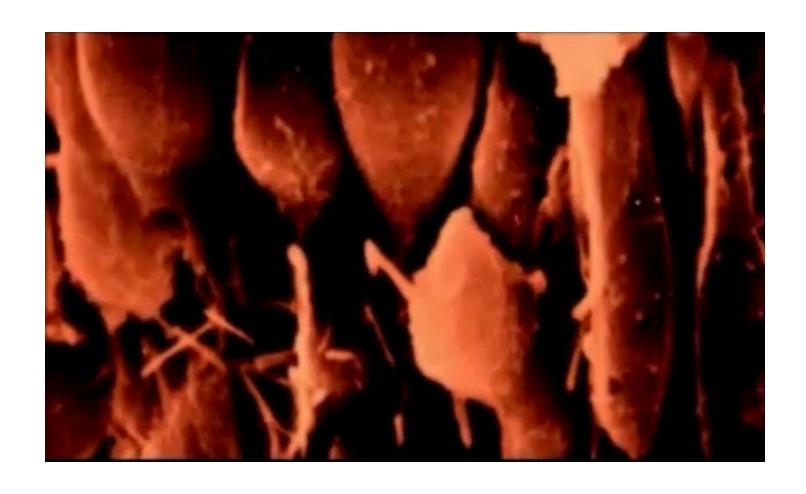
What you can see here are blood vessels, running over the surface of the retina, and beneath them are light-sensitive cells, which allow you to see.

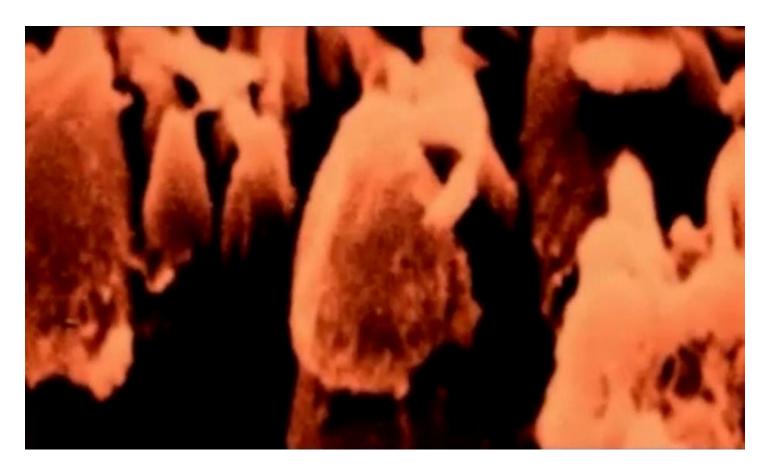


Lining the inside of each eyeball, there are over a hundred million light sensing cells.



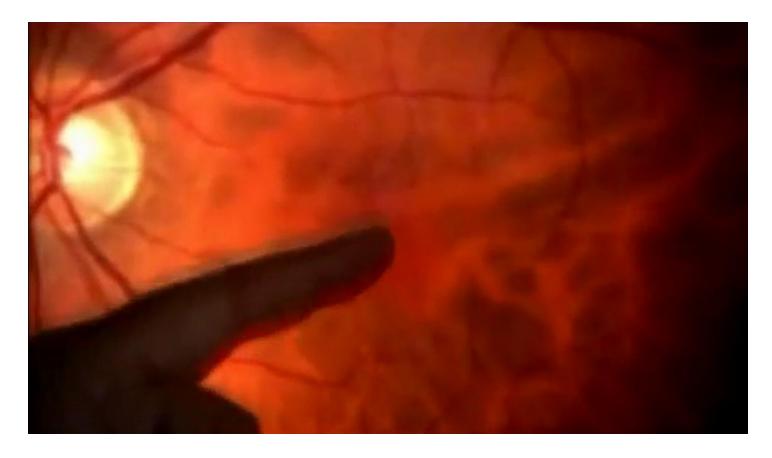
But only the bigger cone cells see in color.





And amazingly only in one tiny area of each eye that there are enough of these cone cells jam pack tightly together for sharp color vision.





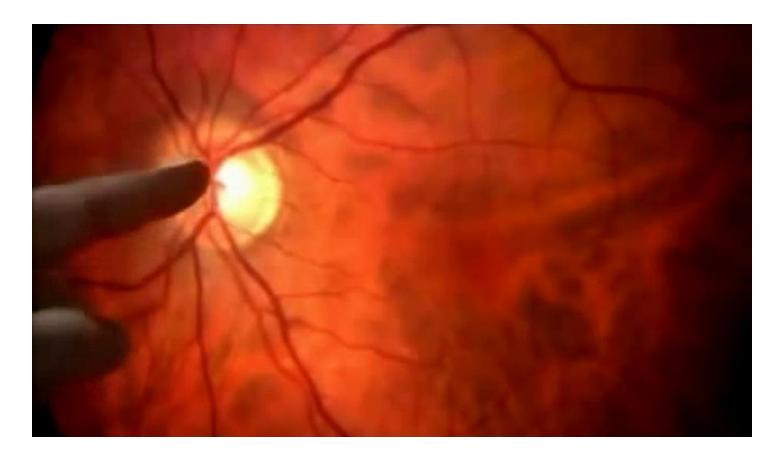
Most of the retina gives you a vision which is quite blurry; apart from this very small area in the middle.



Just that smudge that we can see there; this little smudge here that gives you really fine detail vision.



And that bright spot is even odder; an area which is completely blind.



That's where all the blood vessels come in and out, and where all the optic nerve fibers go back to the brain. And there is so much going on there that there aren't actually any light-sensitive cells in that area and that corresponds to your blind spot so it is a very odd design.



So with our eyes are designed with a blind spot and mostly blurred image, how do we see the world in such intricate detail and vivid color?



The patchy image made in the back of the eye is just the beginning of how we see.



As our eyes dart around, we make sure that anything interesting is lined up on our sharp spot, so we get a good look at it.



And you don't know you're doing it because the brain takes these jerky snapshots and creates a nice smooth movie of the world.



And the brain also compensates for the blind spot.

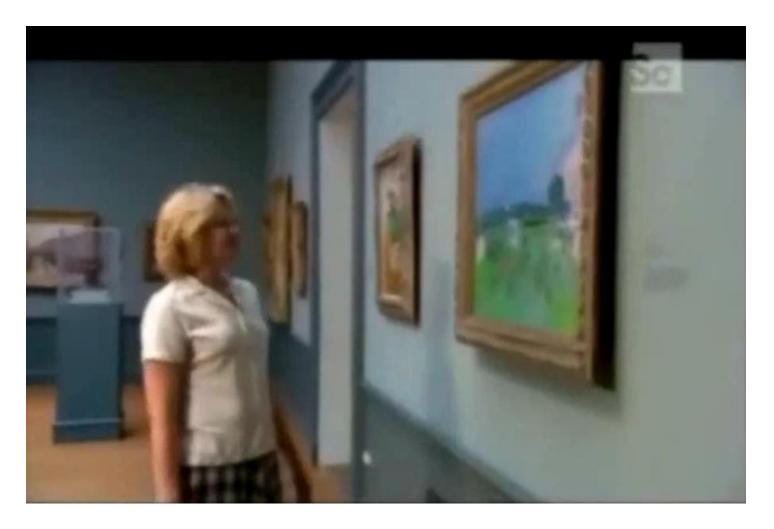


Because our eyes give slightly different images we can combine them to give one complete picture.

Neurobiological basis of Colour and Contour in Paintings



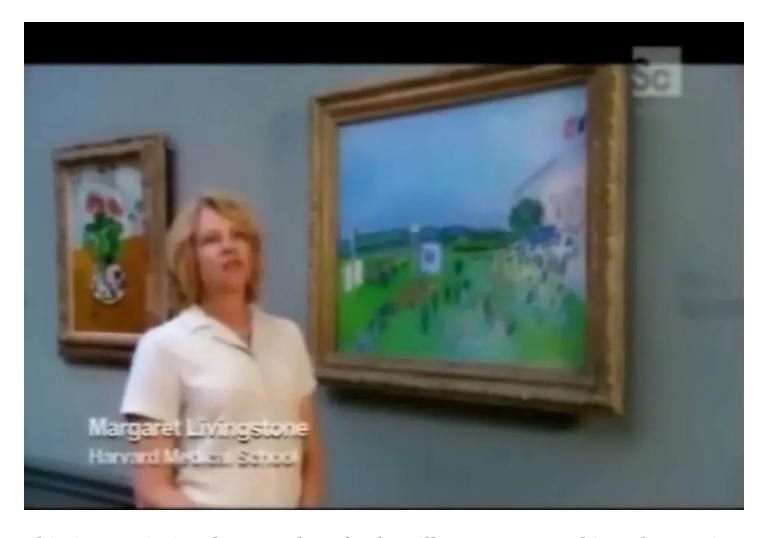
The next video I am going show is another interesting one because it's in the process of "Saṅkhāra," the Construction. We are able to see colors in a picture; this is actually artists have discovered this; these artists have discovered it in oil painting and especially in watercolors; they don't always put the color inside the contour or the border of an image. So our eyes somehow manage to tell us that these colors fall inside that border and here is an interesting discovery.



Neurobiologist, Margaret Livingston, believes that artists were always a step ahead, with the secrets of sights were concerned.



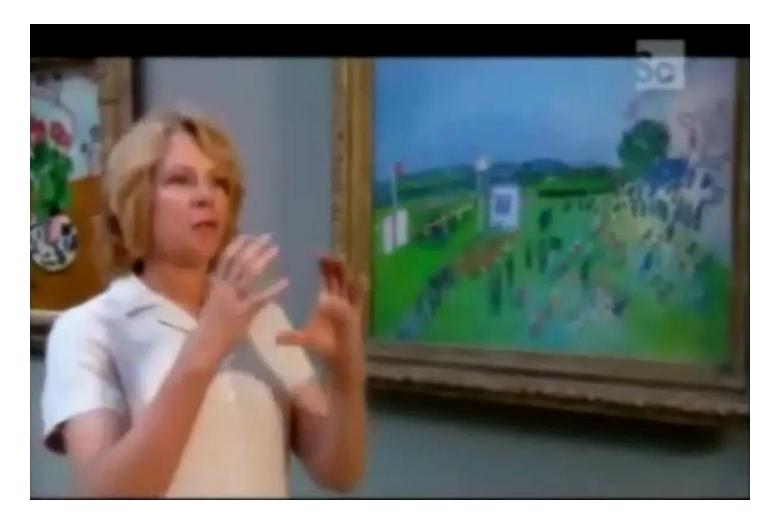




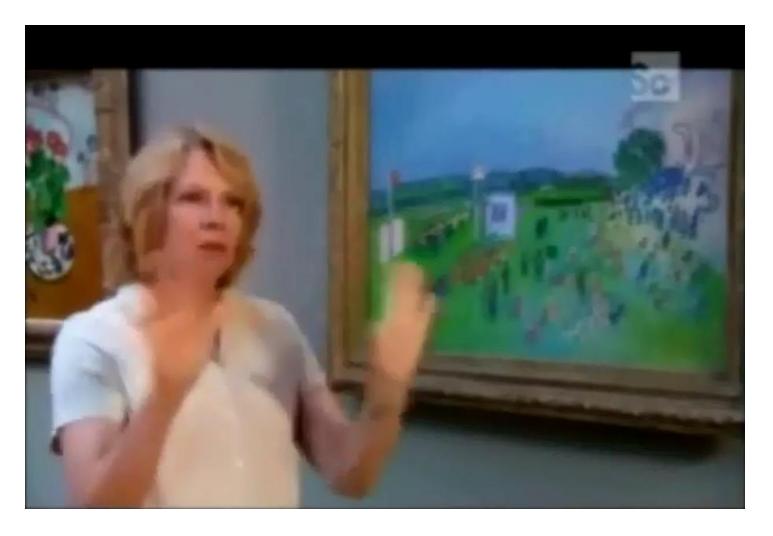
This is a painting by Raoul Dufy that illustrates something that artists figured out that turns out to have a deep neurobiological basis.



And what they figured out is that you don't have to color inside the lines. You see this often in watercolors and pastels. This is an oil painting it's almost a parody of the watercolor technique.



The neurobiological basis is that cells that code color has big cores receptive Fields. They have low acuity, much lower than the cells that encode contours.



So because your visual system doesn't use the color to define the borders of an object, the color can be kind of sloppy, and you just assign the color to the nearest border, and so that's what he's doing here.





Of course these artists discovered it long before us neurobiologists.



But you just have contours with some soft color approximately in the same position is the contour.



And your visual system just assigns that color to that object.



"HOW WE SEE"

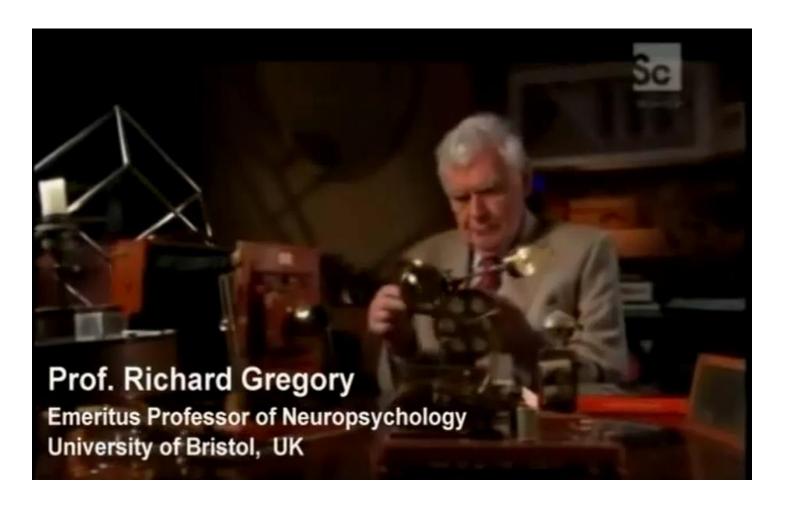


- The eye is not responsible for "SEEING" it only provides "snippets" of information
- It is the Mind that is responsible for "seeing" an image
- The Mind ("mano") uses individual experiences to interpret what the eye sees, and "cooks up a story" based on snippets of information provided by the eye
- In this video, Sherlock Holms & Dr Watson are used as a model to explain how different people with individual experiences interpret the same visual clues to give different meaning

Ven. Dr. M. Punnasi Maha Thera

PATICCA-SAMUPPĀDA (August 2011)

The next video I'm going to show actually is a very good one to explain this explanation of the Process of Cognition, where we have "Papañca." In this video, this is called "How we see." A retired neuroscientist scientist actually has researched this thoroughly and he has now explained this. Now what happens here is that he's using two characters you may be familiar with them, Dr. Watson and Sherlock Holmes. He's basically saying that two people with different individual experiences can be looking at the same visual clue when they are trying to solve a crime, and yet because of their differences in experiences, they will produce different deductions as to the conclusion based on those clues. So he's using Sherlock Holmes and Dr. Watson as model for that. He is also saying that the eye is not responsible for seeing. The eye is just supplying snippets of information. It is the Mind that is responsible for seeing.



Since he was a child, Richard Gregory, former professor of neuropsychology at Bristol University and inventor of optical instruments has been fascinated by how we see.



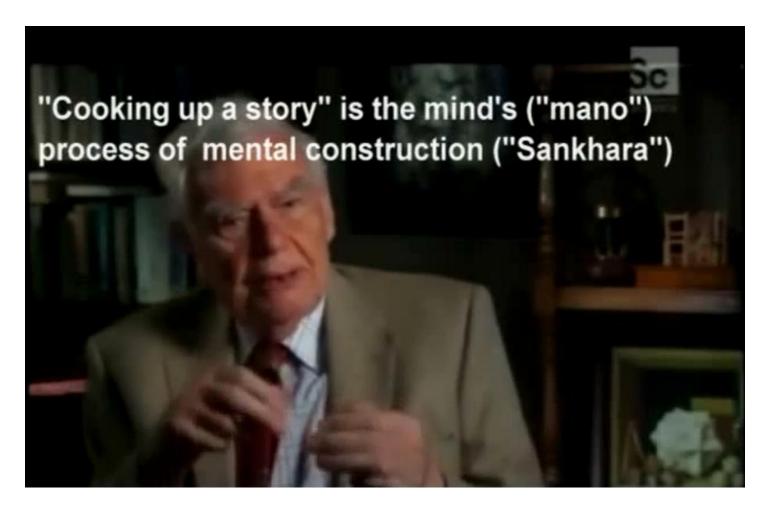
People often say that the eye is like a camera, but this is kind of true, but it's not anything like the whole truth. Here the camera and it has the lens on the front here of course, and we have a lens in the eye, and it has a screen on the back which has the picture, the same is true of the eye.



Now I look at the picture here, and then my brain interprets that, and I have a mental image or picture which is completely different from the optical. And this is where things get tricky, difficult, and exciting and interesting; it's the difference from the camera that mattered. Although the eyeball itself is a camera, it's the brain is responsible for seeing.



And what our brain does is use individual experience to interpret what the eye sees.

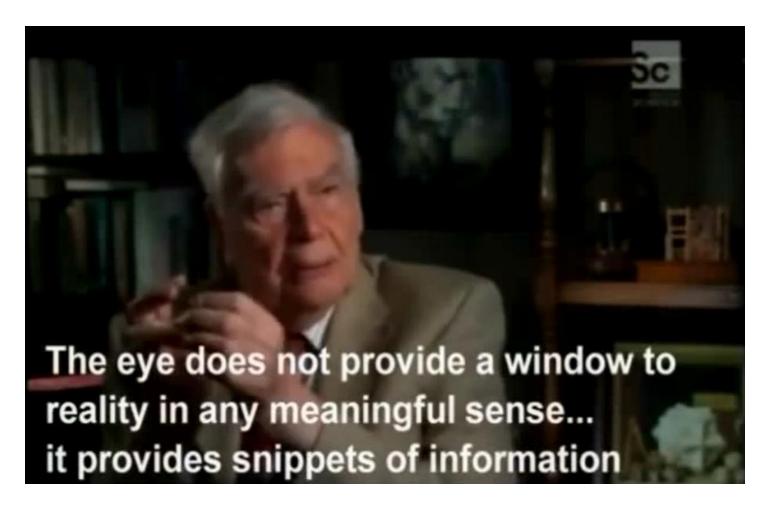


You get the idea in the end that vision works not by directly representing the world but by cooking up a story of what might be out there on the basis of bits and pieces of information we call clues.

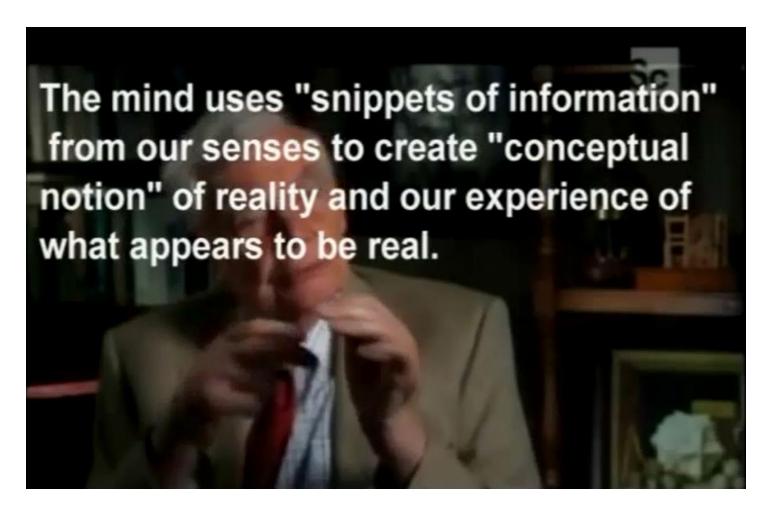


I think Sherlock Holmes is a model here that he gets what was going on, a little tiny clue.

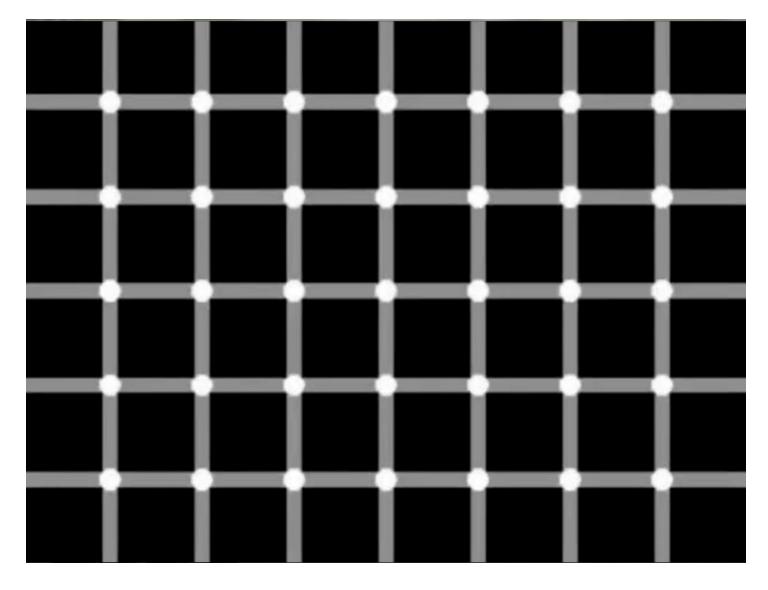
Depending on his individual experience, Dr. Watson's interpretation of visual clues may differ greatly from the deductions of his hero.



That's all the eye can really provide. It doesn't provide the window to reality in any meaningful sense.



It provides snippets of information from which the brain creates both conceptual notions of reality that you can describe by language, and also the experience of what appears to be real through the eyes and the other senses.



Black dots: Anybody can guess why you see black dots even though you can see clearly, ah, there are no black dots, yes? Because you do not see the whole image, your eyeball is darting around, scanning different parts of the image in bits and pieces, but your mind, your construction the "Sańkhāra" is not perfect. It is the imperfect "Sańkhāra" that builds up an image, where because of the construction of this image, this picture here it leaves behind black images, not in the point of focus, but in the peripheral vision. You don't see black dots in your point of focus, but you see them in your peripheral vision because it is the peripheral vision construction which is not perfect.

Very good! Thank you Billy! This helped a lot.



Construction Process (Sankhāra)



- There are 3 kinds of <u>Construction Process</u> (sańkhāra) in the <u>Process of Perception (Pañca khandha)</u>:
 - Vedanā-Saññā: mental part ("mano") of the construction process;
 - II. Vitakka-Vicāra: vebal part ("vacī") of the construction process;
 - III.Ānāpāna (breathing): physical part ("kāya") of the the construction process.

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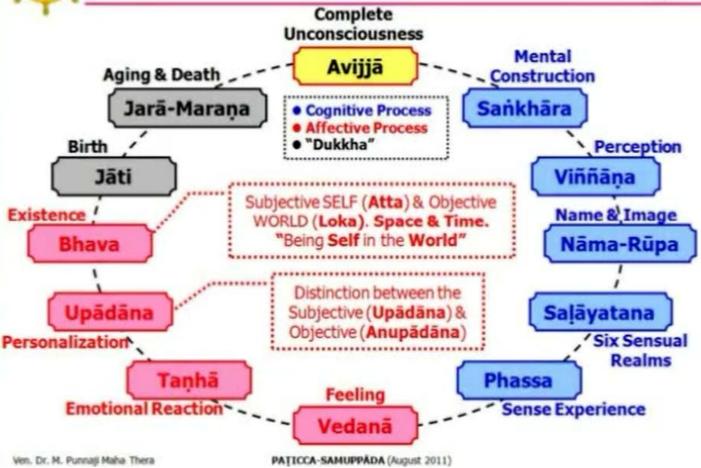
PAŢICCA-SAMUPPĀDA (August 2011)

Three kinds of construction; these are "Saṅkhāra." We have to understand that there are, the Buddha spoke of three kinds of "Saṅkhāra". This is where the commentators, who interpreted the Sutras, they made a mistake because the Buddha spoke of the Mental, Verbal, and Physical. But when he spoke of the Mental, Verbal, and Physical, he referred to "Karma"; "Karma" in the form of action, so action can come in the form of Mental Action, a Verbal Action, or Physical Action. When he began to speak of "Saṅkhāra" also, he used the Mental "Saṅkhāra", Verbal "Saṅkhāra," and Physical "Saṅkhāra.' But he was not talking about "Karma" there. But the commentators thought "Karma" is the same thing. So they formulated the "Paṭicca-Samuppāda" in that way. That is why if you read an ordinary book on the "Paṭicca-Samuppāda", you'll see the "Paṭicca-Samuppāda" process has been broken into three lives.



PAŢICCA-SAMUPPĀDA (Antecedental Concurrence)





Now if you look at the diagram here, we have the "Paṭicca-Samuppāda"; the various factors of the "Paṭicca-Samuppāda": "Avijjā", "Saṅkhāra", "Viññāṇa", "Nāma-Rūpa", "Saļāyatana", "Phassa", "Vedanā", "Tanhā", "Upādāna", "Bhava", "Jāti", "Jarā-Maraṇa".

Now the "Avijjā" is usually translated as "Ignorance", ignorance they say ignorance, but I am saying it is not "Ignorance"; it is "Unconsciousness". That is because when the Buddha practice the "Samādhis", he went passed the "Rūpa Samādhis", which are the first four "Jhanas", and after the first four "Jhanas" came the Infinite Space, Infinite Perception, Nothingness, and neither Sensation nor no Sensation, and then went to the cessation of Sensation and Feeling. That is a complete stopping of the Mind. So when the mind was completely stopped there was no Consciousness of any kind. So that absence of Consciousness is the Unconsciousness. So what he was experiencing was Unconsciousness, and then he came out of that state, which we described earlier, so I am not going into detail.

The other thing that happen he came back to neither Sensation nor no Sensation, then the Nothingness, then the Infinite Perception, Infinite Space, and then comes back to the fourth "Jhana", third "Jhana", second "Jhana", and the first "Jhana". So as he comes back, he first becomes aware of the Mental "Saṅkhāra", that is "Vedanā" and "Saññā"; mental part of the Construction Process: "Vedanā" and "Saññā". "Vedanā" means Feeling and "Saññā" means Sensation. Those two are the Mental Constructs.

Now they are Mental Constructs simply means that these are like the bricks that you use to make a wall. So the first thing that you use is "Vedanā" and "Saññā", and then the rest is built on the "Vedanā" and "Saññā". So the "Vitakka-Vicāra" refers to the Verbal part. But the Verbal part starts only in the first "Jhana". Only when you come back to the first "Jhana", you notice the Verbal part. So that it is the Verbal part that does the Construction of the Image. The images fully constructed by that. And then comes the emotional part which is really the breathing part. The emotion is mainly the breathing part; that's a physical part. You know, the emotion needs, we discussed emotion as the hormones working, and that the different activities of the body, so it's all a physical thing. The emotion is the physical thing. The thinking part is a mental thing, which is the activity of the brain, and the dermis system, the senses. And so the whole Construction is that.

So this is why when we say "Saṅkhāra", we are talking about that Construction and the various parts of the Process of Construction. So it is from a state of complete Unconsciousness that this Construction Process begins, that is the meaning of "Avijjā Paccayā Sankhārā", that the Unconsciousness precedes the Construction Process.

Now in order to understand it in a slightly different way in terms of the Theory of Evolution, we have to understand that Evolution began, which is the process of thing called Life. With the molecule like DNA or RNA that kind of molecule, which was able to absorb atoms from its surroundings and build molecules of its own kind. And that was happening not because God did it or some Devil did it. It is because when the necessary conditions are present it happens. When the necessary conditions are absent it doesn't happen. So everything that happens in the world happens due to the presence of the necessary conditions. Someone doesn't do it. And so this process went on, and it was seen as the struggle for existence because there was a building up process and a breaking down process, and there's no real existence but the process continued, and that was the struggle for existence. And this process of Evolution took place because this whole process started adapting to the environment, and it is through adaptation to the environment that changes began to take place and that was the Evolutionary Process.

And so from the molecules began to form what is called a cell, and several cells begin to form what is called a tissue, and several tissues began to form an organ, and several organs begin to form a system, like the circulatory system, which contains several organs, or the reproductive system which contains several organs. So these are systems. And several systems go to form an Organism. So that is how the Organism came into being. So gradually the organism went on changing, and the cells began change, and the tissue began to change, and everything began to change due to adapting to the environment, and that is how changes took place, and gradually the Evolution took place until the human being came into being.

It is the only when the human being come into being that the brain is properly formed, and you're able to think and reason out. It is by thinking and reasoning out that you become Conscious of a World and Conscious of "Self" in the World. So that whole process of becoming aware of the World and things like that that is what is called Consciousness, not the mere perception. So perception is only a part of the Process of Cognition and becoming conscious.

So cognition is the interpretation of what has been perceived, and then you become conscious of a world, and that is the consciousness. So that it was after the Consciousness had developed, that the Buddha began to recognize this problem, that this whole process of Life formation and also Evolution, it has made a mistake and that mistake was the struggle for existence; the struggle for existence was the mistake. Because there is no real existence, every individual has to die. Only the struggle to exist continued without the real existence, and that was creating problems all the time. Because everyone is in fear that you might die; this is the insecurity of life: birth, old age, disease, and death.

So we are getting close to 10. Okay we have to end at this point; we will go into this in detail next time.